

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) Folding machine to fold a web material ~~(N)~~ along transverse folding lines, comprising at least one folding roller ~~(1, 3, 505)~~ provided with at least one gripping member ~~(43, 513)~~ to mechanically grasp the web material ~~(N)~~ along a folding line; ~~characterized in that and~~ a gaseous flow member ~~(79, 515, 601)~~ is associated with said at least one gripping member ~~(43, 513)~~ to insert the web material into said at least one gripping member ~~(43, 513)~~.

2. (Currently Amended) Machine according to claim 1, ~~characterized in that~~ wherein said gaseous flow member is a suction member to draw the web material ~~(N)~~ towards said at least one gripping member ~~(43, 513)~~.

3. (Currently Amended) Machine as claimed in claim 1 or 2, ~~characterized in that it comprises further comprising~~ two counter-rotating folding rollers ~~(1, 3)~~, with parallel axes, each of ~~which is~~ said counter-rotating folding rollers being provided with at least one gripping member ~~(43)~~.

4. (Currently Amended) Folding machine as claimed in claim 2 or 3, ~~characterized in that, wherein~~ each of said suction ~~members~~ ~~(79)~~ member is associated with a device to activate and deactivate suction as a function of the an angular position of the a respective folding roller of said

at least one folding roller ~~(1, 3, 505)~~, the suction member ~~(79)~~ of associated with each said respective folding roller ~~(1, 3, 505)~~ being active for a fraction of a complete turn of the respective folding roller.

5. (Currently Amended) Folding machine as claimed in ~~one or more of claims 2 to 4, characterized in that~~ claim 2, wherein said at least one gripping member ~~(43, 513)~~ comprises a movable element ~~(61)~~ cooperating with a first stop ~~(63C)~~, the web material being sucked by said suction member ~~(79, 515)~~ between said movable element ~~(61)~~ and said stop ~~(63C)~~.

6. (Currently Amended) Folding machine as claimed in claim 5, ~~characterized in that~~ wherein said movable element ~~(61)~~ cooperates with a second stop ~~(73)~~, said first stop and said second stop defining a slit essentially parallel to the ~~an~~ axis of rotation ~~(1A, 3A, 505A)~~ of the ~~a~~ respective folding roller of said at least one folding roller, the movable element ~~(61)~~ extending in said slit.

7. (Currently Amended) Folding machine as claimed in ~~one or more of the previous claims, characterized in that~~ claim 3, wherein each of said at least one folding roller ~~rollers~~ ~~(1, 3)~~ comprises at least a one cavity ~~(41)~~ substantially parallel to its an axis of rotation ~~(1A, 3A)~~ and open opens on the ~~a~~ cylindrical surface of the folding

roller, inside which ~~the a~~ respective gripping member (43) is housed, and ~~in that~~ wherein a suction duct (79) terminates in said cavity.

8. (Currently Amended) Folding machine as claimed in claim 5 and 7, ~~characterized in that~~ wherein each of said cavities (41) ~~are at least one cavity is~~ provided with means to limit ~~the~~ effect of suction on one side of ~~the a~~ movable element associated with said at least one gripping member (61), between ~~it~~ the movable element and said first stop (63E).

9. (Currently Amended) Folding machine as claimed in ~~at least claims 5 and 7 or 5 and 8~~, ~~characterized in that~~ claim 8, wherein a first block (63) defining said first stop (63E) is fixed in said cavity (41).

10. (Currently Amended) Folding machine as claimed in ~~at least claims 6 and 7~~, ~~characterized in that~~ claim 6, wherein a second block (65) defining said second stop (73) is fixed in said cavity (41).

11. (Currently Amended) Folding machine as claimed in ~~at least claim 9~~, ~~characterized in that~~ wherein said first block (63) delimits a suction compartment (78) in connection with said suction duct (79) and is provided with a plurality of suction holes (63E) distributed along ~~the a~~ longitudinal extension of said first block (63) and terminating on a

surface of said first block positioned on the an opposite side with respect to said suction compartment (78) and facing the movable element (61).

12. (Currently Amended) Folding machine as claimed in claim 11, ~~characterized in that wherein~~ said movable element is supported by a shaft (45) oscillating around its longitudinal axis (45A), supported in said cavity (41), and ~~in that wherein~~ said first block (63) has a sealing surface (63D)—cooperating with said oscillating shaft (45), said holes (63) terminating between the first stop (63E) defined by said first block (63) and said sealing surface (63D).

13. (Currently Amended) Folding machine as claimed in ~~one of more of the previous claims, characterized in that~~ claim 12, wherein each of said at least one gripping members (43) member includes an elastic strip (61).

14. (Currently Amended) Folding machine as claimed in claim ~~12 and 13, characterized in that wherein~~ said elastic strip (61) is integral with said oscillating shaft (45) and cooperates with said first stop (63E).

15. (Currently Amended) Folding machine as claimed in ~~one of more of the previous claims, characterized in that~~ claim 3, wherein each of said counter-rotating folding rollers is associated with a sliding block (81) with a communication channel (105, 37) between a suction line (109)

and a suction duct ~~(79)~~ in ~~the~~ a respective folding roller of said at least one folding roller, said sliding block resting on a sliding surface ~~(1F, 3F)~~ of the respective folding roller ~~(1, 3)~~.

16. (Currently Amended) Folding machine as claimed in claim 15, ~~characterized in that~~ wherein said sliding surface is disposed on a front surface of the respective folding roller ~~(1, 3)~~ on which said suction duct ~~(79)~~ terminates.

17. (Currently Amended) Folding machine as claimed in claim 15 ~~or 16~~, ~~characterized in that~~ wherein said sliding block is resiliently pushed against said sliding surface ~~(1F, 3F)~~.

18. (Currently Amended) Folding machine as claimed in claim ~~15, 16 or 17~~, ~~characterized in that~~ 15, wherein said sliding block has an elongated aperture ~~(105)~~ communicating with the respective folding roller.

19. (Currently Amended) Folding machine as claimed in ~~at least~~ claim 4, ~~characterized in that~~ wherein each said ~~devices~~ device to activate and deactivate suction ~~are~~ is adjustable, to adjust ~~the~~ positions in which suction is opened and closed as a function of the angular position of the respective folding roller.

20. (Currently Amended) Folding machine as claimed in claim ~~15, 16, 17 or 18~~, ~~characterized in that~~ wherein said

sliding block ~~(81)~~ is disposed in a specific angular position adjustable with respect to the ~~relative~~ respective folding roller ~~(1, 3)~~.

21. (Currently Amended) Folding machine as claimed in claim 20, ~~characterized in that wherein~~ said sliding block ~~(81)~~ is engaged with a flange ~~(89)~~ coaxial to the respective folding roller ~~(1, 3)~~, the angular position of which around the axis of the folding roller ~~(1, 3)~~ is adjustable.

22. (Currently Amended) Folding machine as claimed in ~~one of more of the claims 1, 4-21, characterized in that~~ claim 1, further comprising a cutting unit ~~(501, 503)~~ that cuts the web material ~~(N)~~ into single sheets, which are folded by said folding roller, is associated with said folding roller ~~(505)~~.

23. (Currently Amended) Folding machine as claimed in claim 22, ~~characterized in that wherein~~ said cutting unit has two counter-rotating cylinders ~~(501, 503)~~ with axes parallel to each other and to the folding roller, which define between them a nip through which the web material is fed, and provided with blades and counter-blades ~~(509, 511)~~ to cut the web material ~~(N)~~, and ~~in that wherein~~ one of said two counter-rotating cylinders ~~(501, 503)~~ forming the cutting unit forms with the folding roller a nip through which the cut web material is fed.

24. (Currently Amended) Folding machine as claimed in ~~one of more of the previous claims, characterized in that~~ claim 1, wherein said at least one folding roller ~~(1, 3, 505)~~ cooperates with a counter-roller ~~(3, 1, 503)~~, on which a projection ~~(201A)~~ is provided extending parallel to the axis of said rollers, the position of said projection being synchronized with respect to the position of said gripping member, to facilitate pick-up of said web material ~~(N)~~ by suction.

25. (Currently Amended) Folding machine as claimed in ~~claims 3 and claim 24, characterized in that~~ wherein a corresponding projection ~~(201A)~~ is provided on each of said at least one folding ~~rollers~~ roller, each projection ~~(201A)~~ of one of said at least one folding ~~rollers~~ ~~(1, 3)~~ roller cooperating with a gripping member of the opposite folding roller.

26. (Currently Amended) Folding machine as claimed in claim 1, ~~characterized in that~~ wherein said gaseous flow member includes an air ejection member ~~(601)~~, to push the web material inside at least one gripping member ~~(43)~~.

27. (Currently Amended) Folding machine as claimed in claim 3 ~~and 26, characterized in that~~ wherein on each said at least one folding roller an air ejection member ~~(601)~~ and

a gripping member ~~(43)~~ are provided, arranged on diametrically opposed positions.

28. (Currently Amended) Folding machine as claimed in claim 26 ~~or 27~~, ~~characterized in that~~ wherein said gaseous flow member includes at least one air nozzle ~~(601)~~.

29. (Currently Amended) Folding machine as claimed in claim 28, ~~characterized in that~~ wherein said at least one air nozzle is a linear nozzle extending parallel to the axis of the at least one folding roller ~~(1, 3)~~.

30. (Currently Amended) A method for folding a web material according to transverse folding lines, comprising the ~~phases of~~:

- providing at least one folding roller ~~(1)~~;
- providing ~~([,]~~ on said at least one folding roller at least one gripping member ~~(43)~~;
- rotating said at least one folding roller around its axis;
- feeding the web material to said at least one folding roller;
- engaging the web material with said at least one gripping member of said at least one folding roller;

~~characterized in that~~ wherein the web material is inserted into said at least one gripping member by means of a gaseous flow.

31. (Currently Amended) Method as claimed in claim 30, ~~characterized in that wherein~~ said web material is inserted into said at least one gripping member by suction.

32. (Currently Amended) Method as claimed in claim 30, ~~characterized in that wherein~~ said web material is inserted into said at least one gripping member by means of an air jet.

33. (Currently Amended) Method as claimed in claim 30 or 31 or 32, ~~characterized by providing further comprising~~ two counter-rotating folding rollers with parallel axes, which define a nip through which the web material is fed, each of said at least one folding ~~rollers~~ roller being provided with one of said at least one gripping member, and ~~in that wherein~~ the web material is engaged alternately with a first one of said at least one gripping member ~~(43)~~ of the a first one of said at least one folding roller ~~(1)~~ and with a second one of said at least one gripping member of the a second one of said at least one folding roller ~~(3)~~, to fold said web material in a zigzag.

34. (Currently Amended) Method as claimed in ~~one or more of claims 30 to 33, characterized by claim 33; wherein~~ activating the gaseous flow associated with each of said at least one gripping ~~members~~ member in an angular position of the a respective folding roller upstream of the nip ~~(5)~~

between the two first one of said at least one folding roller and a second one of said at least one folding roller rollers, and deactivating said gaseous flow after the web material has been engaged by the respective gripping member.

35. (Currently Amended) Method as claimed in claim 34, ~~characterized in that wherein~~ said gaseous flow is deactivated when the respective gripping member has passed beyond the nip between said first one of said at least one folding rollers roller and said second one of said at least one one folding roller.

36. (Currently Amended) Method as claimed in ~~one or more of the claims 30 to 35, characterized by claim 30, further comprising~~ pinching the web material between a stop ~~{63C}~~, fixed with respect to ~~the relative a respective one of the~~ at least one folding roller ~~{1, 3}~~, and a movable element ~~{61}~~.

37. (Currently Amended) Method as claimed in claim 36, ~~characterized in that wherein~~ said gaseous flow is concentrated between the ~~fixed~~ stop and said movable element.

38. (Currently Amended) Method as claimed in ~~one or more of the claims 30 to 37, characterized by claim 30, further comprising~~ facilitating of ~~the~~ formation of a fold

in said web material in front of said at least one gripping member.

39. (Currently Amended) Method as claimed in claim 38, ~~characterized in that~~ wherein folding is facilitated by a projection provided on a roller {3, 503} positioned opposite to said first one of said at least one first folding roller {1}.

40. (Currently Amended) Method as claimed in claim 38 or 39, ~~characterized in that~~ 39, wherein said gripping member does not cooperate mechanically with said projection.